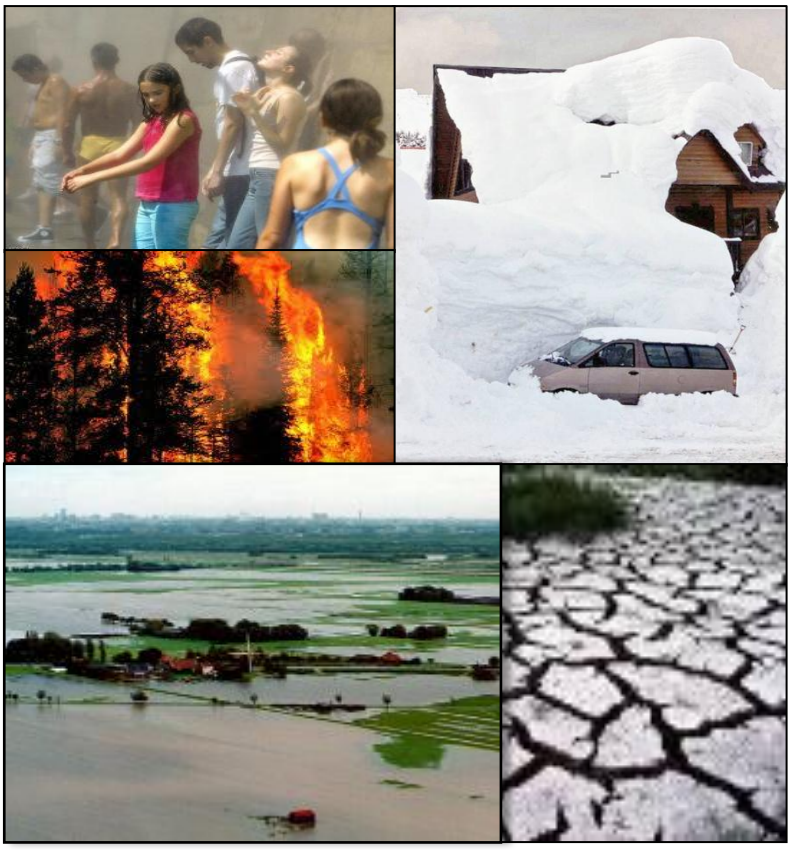
NORTH AMERICAN CLIMATE SERVICES PARTNERSHIP



2013-2017 Strategic Work Plan

"To facilitate the exchange of information, technology and management practices related to the development of climate information and the delivery of integrated climate services for North America." Statement of Intent, January 2012

North American Climate Services Partnership

STRATEGIC WORK PLAN 2013-2017

Mission

The mission of the North American Climate Services Partnership (NACSP) is to facilitate the exchange of information, technology and management practices related to the development of climate and water information and the development and delivery of integrated climate services for North America, in support of:

- Socio-economic benefits that will accrue to all citizens of North America and surrounding territories;
- Advancing our efforts to understand impacts of climate variability and change to inform decisions;
- Responding to an increasing demand for accessible and timely scientific data and information to make informed decisions and build resilience in our communities;
- Improving the effectiveness, accuracy, efficiency and diversity of climate service products through enhanced collaboration and new partnerships;
- Building capacity by sharing information and tools needed to support decision-makers as they address climate variability and change on regional, national and continental levels;
- Demonstrating the benefits of strong bilateral and multilateral collaboration
- Implementing activities to support the WMO Global Framework for Climate Services

Background/Drivers

Climate Services may be defined as the timely production and delivery of useful climate data, information and knowledge to decision-makers through effective engagement and follow-through. The driver behind this service concept is ensuring that people and institutions are positioned to act on the information provided and make "climate-smart" decisions. The concept of climate services has received increasing attention at the global level. At the World Climate Conference-3, held in Geneva in 2009, Heads of State and Government, Ministers and Heads of Delegations of over 150 countries and 70 organizations unanimously decided to establish a Global Framework for Climate Services (GFCS) to better serve society's need for accurate and timely information on climate. Under the leadership of the World Meteorological Organization, which is a specialized agency under the United Nations, the GFCS Implementation Plan was developed and adopted in 2012. In North America, the demand for climate services from nearly all sectors of society are also increasing and are often far beyond the capacity of

any one country. Additionally, the environmental and economic impacts of weather and climate extremes that North America experiences cross national boundaries. Trans-boundary collaborations will help to maximize the ability for each country to respond to its own needs, while fostering resilience and adaptation across North America.

To address this growing need for North American climate, a Statement of Intent (SOI) was signed in January 2012 between the United States National Oceanic and Atmospheric Administration (NOAA), the Meteorological Service of Canada and the National Meteorological Service of Mexico (SMN). This SOI articulated the intention of the U.S., Canada and Mexico to facilitate the exchange of information, technology and management practices related to the development of climate and water information and the delivery of integrated climate services for North America. This Partnership builds on the long-standing cooperation and existing collaborative mechanisms in the North American region to support decision-making with science-based products and services. NACSP consists of multiple teams managing a variety of collaborations. Although the leadership for the NACSP is provided by the three hydrometeorological services of the U.S., Canada, and Mexico, the scope of the partnership is designed to be flexible and adaptive in order to include expertise from other organizations (i.e. international, academia, private sector, non-governmental, etc.).

Purpose and Desired Outcomes

The purpose of this document is to outline the strategic goals, objectives and strategies to be pursued by the NACSP Partnership during the period of 2013-2017 by building on the principles agreed to in the Statement of Intent (SOI) signed between the U.S., Mexico and Canada in 2012.

The NACSP was established to respond to an increasing demand for accessible and timely scientific data and information in order to make informed decisions and build resilience in our communities. Effective implementation of the strategies outlined in this NACSP Strategic Work plan will result in:

- Socio-economic benefits that will accrue to all citizens of North America and surrounding territories through accessible and timely climate information and services.
- Mutual benefits of trilateral cooperation and capacity development by sharing information and tools needed to support decision-makers as they address climate variability and change on regional, national and continental levels.
- Advances in our scientific efforts towards understanding changes in the hydrological, meteorological and climatological cycles and their impacts on water resources towards improved adaptation strategies.

Strategic Goals

The strategic goals of the NACSP partnership will guide enhanced climate service delivery at multiple scales and in several key areas. Taken together, the strategic goals support an integrated approach to the

production, delivery and use of relevant climate data and information designed to meet the needs of society. The specific NACSP strategic goals are:

1. Foster the development of key partnerships with users and stakeholders.

- Early and continuous partnership with users and stakeholders is essential to producing and delivering effective climate services. NACSP needs to be responsive to regional and sectorial needs, and provide information that is relevant and helpful. Engaging stakeholders during development, implementation and assessment of climate services activities is therefore an essential approach. Considerations are to be taken to address both needs and awareness of users regarding what products are already generated (or will be) and how they can best be used. Establishing relationships with core user will also allow us to respond to smaller sequential events more effectively. Due to the enormous challenge of identifying the various user groups, NACSP partners will:
    - Identify and define appropriate user groups based on specific activities,
    - Develop a list of key groups to engage in the early stages,
    - Focus the right amount of attention on engagement,
    - Establish two-way communication to shape specific initiatives,
    - Leverage existing activities and initiatives,
    - Ask users to co-lead some of NACSP activities where appropriate.
- Illustrate the benefits of climate services to society when addressing the impacts of extreme climate events. Climate-related events, such as extreme drought and floods, offer an opportunity to showcase benefits of climate science, and to begin conversations and relationships with new stakeholders and partners. NACSP participants should think broadly when engaging partners, and take advantage of opportunities to increase communication and engagement with users as they move forward.

2. Maximize the use of state-of-the-art science and information by decision-makers

- Increase awareness of science and services. In many cases, science advances are available to enhance or develop products and services. In addition to investing in new research, NACSP should take advantage of these advances and focus on translating this scientific information into new or improved products and services.
- Improve risk-based communication on the benefits and limitations for using the best available science. Numerous challenges exist in communicating the limitations and uncertainties associated with scientific data, and lessons learned from previous application efforts. NACSP will strive to achieve a balance of providing scientific data to the user community while managing expectations regarding data limitations. Engaging the stakeholders upfront on the use of climate science is essential in developing an open conversation regarding the utility and limitations of the available science, which will help the scientific community engage new

partners. NACSP can play a key role as a mechanism for communicating and sharing science and explaining the uncertainties.

3. Prioritize activities based on identified gaps in service delivery and end-user input

- Identify climate knowledge and services gaps in North America. In developing specific activities, NACSP partners will assess the science and identify gaps for the entire service value chain to the end user. When appropriate, partners will utilize existing needs assessment efforts.

- Utilize input from end users to drive NACSP science and research activities. Feedback from users on existing or new products will be used to prioritize actions undertaken by the Partnership. This will enable the development of strategies to address user needs, and to improve the intake of climate information into the decision-making process.

4. Utilize Regional Pilots to implement a place-based approach

- All teams should consider how to further enhance the 'local to regional' pipeline of information and services, such as exploring how to use the pilot areas as test beds to improve products available at the North America scale. An understanding of place, context, history, and decision-making processes within any region is vital to shaping the development of delivery of relevant climate services.

5. Create opportunities to share best practices and lessons-learned

- All NACSP partners should make every effort to share information, best practices, methodologies and challenges to continue to build the capacity for delivering essential climate information. This can include workshops, annual meetings or program management activities between the three countries to share methods and knowledge.

Linkages between NACSP and the Global Framework for Climate Services

Activities undertaken by NACSP partners support the vision and goals of the GFCS, which aims to "enable better management of the risks of climate variability and change and adaptation to climate change, through the development and incorporation of science-based climate information and prediction into planning, policy and practice on the global, regional and national scale." (World Climate Conference-3). There are three main ways that the NACSP contributes to the GFCS:

1. **Regional approach.** This partnership is an example of cross-border collaboration at the regional scale, which builds on existing capacity and knowledge transfer mechanisms to enhance climate science and service delivery.

2. **GFCS Priority Sector Areas.** The GFCS will initially focus on four priority sectorial areas: Water Resources, Food Security/Agriculture, Disaster Risk Reduction, and Human Health. This NACSP 2013-1016 Strategic Plan focuses on science and services related to water resources, which is in direct alignment with one of the four GFCS priority areas. There are also indirect

links between NACSP focus areas and the other GFCS sector areas, such as activities related to drought and food security.

3. **GFCS Pillars.** The GFCS is composed of five main components, or Pillars, which are all required to ensure the production, delivery and use of relevant climate information products towards meeting the needs of society. These Pillars are:

    - To ensure that climate observations and monitoring and other relevant data necessary to meet the needs of end users are collected, managed and disseminated
    - To foster research, modelling and predictions capabilities towards continually improving the scientific quality of climate information, providing an evidence base for the impacts of climate change and variability
    - To support mechanisms where climate information (past, present and future) will be routinely collected, stored and processed in various climate services information systems to generate products and services that inform often complex decision making across a wide range of climate-sensitive activities and enterprises
    - To provide a structured means for users, climate researchers and climate information providers to interact at all levels in order to develop and provide user-driven products and services through a user-interface platform.
    - To address the particular capacity development requirements identified in the other pillars

    The NACSP activities can help advance progress in all of these Pillars, with a particular emphasis on serving as regional user-interface platform for North America to enhance and develop products and services by ensuring appropriate stakeholder input, as well as building capacity in regions most vulnerable.

Within the program of work under NACSP initiatives to further these elements will be identified and progress tracked.

Scope and Approach

Initial focus of the NACSP during this upcoming 4 year period (2013-2017) on the provision of better climate information for water resources or related to water resources. This issue is of high importance to all three countries, and aligns with one of the four priority sector areas identified in the GFCS.

- Framed around 'Focus Areas' that can be divided into three complementary categories
    - Enhancing existing core capabilities and products related to forecasting and modeling that cover the North American continent
        - North American Ensemble Forecast System (NAEFS)
        - North American Seasonal Forecast System (NASFS)

- Precipitation Analysis

- Enhancing existing core capabilities and products related to sectorial issues that cover the North American continent
  - Drought activities, including the North American Drought Monitor and the North American Drought Outlook
  - North American Seasonal Fire Assessment and Outlook
- Develop regional pilot areas where collaboration exists or is of priority, and where prototype climate-related products and services related to the continental-scale core capabilities can be tested at a local or regional scale.
  - Rio Grande and Rio Bravo basin
  - Great Lakes region

Guiding Principles for NACSP Development and Implementation

Participation in the NACSP is open to all. Relevant partners (federal, state and local governmental agencies; academia; NGOs, sectorial representation, private sector, etc.) are invited to participate in the NACSP activities as appropriate.

Early engagement with users and stakeholders is essential. The NACSP needs to be responsive to both regional and sectorial needs, and provide information that is relevant and helpful. It is essential that our work takes into account the opinions of users, which is recommended by the Global Framework of Climate Services.

Effective monitoring and observations networks are the foundation to accurate and useful information for decision makers. Collaborative sharing of observations, data, quality control methodologies and policies are a critical foundation for climate services on a variety of scales.

Sound science forms the basis of effective decision-making. NACSP partners will collaboratively assess science gaps, work in partnership to close those gaps, and share results proactively.

Consistent and coherent approaches to risk communication are a critical part of promoting climate services. NACSP will work together in developing approaches in communicating uncertainty and risk so that the credibility of information and services is maximized.

Awareness and sensitivity to language of service is important in disseminating and engaging stakeholders. The NACSP encompasses three official languages and the partners will work collectively and individually to maximize the use of official languages in engaging end users and stakeholders and in considering the development of products.

Communication across the NACSP initiatives will enable innovation and collaboration. Ensuring that the individual Focus Area teams have an open and regular communication mechanism with the NACSP Coordination body is essential for effective learning and exchanging best practices between partners.

Sound measures of success will be elaborated for each NACSP initiative. The value-added of each NACSP initiative will be evaluated and adjustments will be made as necessary to ensure the development of relevant climate services in response to users' needs.

Evaluation and Reporting

In order to advance the NACSP, it is necessary to regularly assess the progress of the strategies against the proposed outcomes. The NACSP Coordination Committee, which is made up of representatives from all three countries, will evaluate efforts and track success in the implementation of the identified activities through annual written reports received from the Focus Area team leads, as well as feedback received during quarterly conference calls. These conference calls will also provide opportunities for the team leads to share successes and challenges, identify cross-team opportunities for collaboration, and discuss improvements to the overall NACSP effort. Workshops or annual meetings are highly recommended to strengthen coordination, encourage collaborations between thematic areas, and review/update the Terms of Reference as needed.